

Remarks

Status of the Claims

Claims 1, 8, 11 and 15 have been amended. Claim 16 has been cancelled. Claims 5-7, 10 and 17-23 stand withdrawn. Claims 1-4, 8, 9 and 11-15 are active in the application. Claims 1, 7 and 11 are independent claims.

As used herein, references to the Office Action indicating bracketed paragraphs, as such: (para. X), refer to paragraphs in the subject Office Action

The Examiner has indicated Applicant's information disclosure statement of 5/23/2002 fails to comply with 37 CFR 1.98(a)(2) for failing to include a legible copy of the U.S. patent and the non-patent publications. The Examiner has considered the U.S. references but was unable to find copies of the non-patent documents. (Para. 2.) Applicants are attempting to locate copies of these references and if successful will make them available.

Claims 1-4, 8 and 9 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. More particularly, the Examiner states that the word "isotropically" is unclear. (Para. 4.)

Claims 11-13 and 15-16 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6153252 to Hossainy et al. (Hossainy). More particularly, the Examiner has stated that since the same type of SonoTek ultrasonic nozzle, droplet size, volatile liquid, cloud coating formation and substrate is used by Hossainy as by Applicant, the microdroplets formed by Hossainy must inherently impact isotropically on the surface of Hossainy's stent in the same manner of impact as Applicant's method. (Para. 6.)

Claims 1 and 8 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5451260 to Versteeg et al. (Versteeg). More particularly, the Examiner has stated that Versteeg does not teach the cloud formed of micro-droplets but that since Versteeg teaches all method limitations of Applicant and uses the same spray device, droplet size and impact would inherently meet Applicant's limitations. The Examiner further states that because Applicant's teach process conditions adjusted to achieve a full

range of drying values up to almost completely dry, Applicant's method approaches and is not patentably distinct from Versteeg's dry embodiment. (Para. 7.)

Claims 1-4, 8 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hossainy in view of Versteeg. More particularly, the Examiner states that it would have been obvious to one of ordinary skill in the art to use the metering, evacuating, etc. conditions of Versteeg in the method of Hossainy to provide reproducible, uniform coatings in the method of Hossainy. (Para. 11.)

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Hossainy in view of Versteeg and further in view of U.S. Patent No. 6361819 to Tedeschi et al. (Tedeschi). More specifically, the Examiner states that Tedeschi teaches the coating of stents with a derivatized silane polymer with drugs incorporated therein, a limitation failing to be taught by Hossainy in view of Versteeg. (Para. 12.)

Applicant's Amendments

Applicants have amended each of claims 1 and 8 to recite a three-dimensional substrate and the introduction of the mixture/liquid into the chamber to form a cloud of micro-droplets that isotropically impact on the substrate and coat the substrate with a generally conformal organic thin film. Claim 8 has been further amended to clarify the coating is a result of the micro-droplet impact.

Applicant's claim 11 has been similarly amended to recite introducing a mixture of a liquid and the organic compound into the chamber via an ultrasonic nozzle in the form of micro-droplets at a controlled temperature and pressure so that the micro-droplets impact isotropically on a three-dimensional substrate to generally conformally coat the substrate with the mixture.

The Cited Art

Hossainy teaches a process for coating stents with a liquid coating solution under conditions suitable to allow the film to coat at least one surface of the stent while maintaining a fluid flow sufficient to prevent the film from blocking the stent passages. Hossainy does not show the micro-droplet coating process as taught and claimed by Applicants.

Versteeg clearly teaches and requires that the substrate coating result from a chemical vapor deposition (CVD) process. As noted in Applicant's discussion of Versteeg (see Applicant's Background, page 3, para. 1), CVD is generally applied to coat a flat surface. In fact, in Versteeg the patent shows substrate 16 mounted on a heater 18, in a conventional manner, such that only the upper flat surface is exposed. In contrast to Versteeg's teachings, Applicant's claimed process is not a chemical vapor deposition process, but rather the described and claimed micro-droplet coating process applied to conformally coat a three-dimensional substrate. Versteeg does not show or suggest the microdroplet coating process taught and claimed by Applicants.

Applicant's Comments

Applicants respectfully traverse the rejection of claims 1-4, 8 and 9 under 35 U.S.C. §112, second paragraph. As is known in the art and implicit in the definitions cited by the Examiner, the term "isotropic" is used to describe a non-directional process (as opposed to an anisotropic, directional process). The claimed isotropic impact of micro-droplets, resulting from a chaotic movement of the drops within the turbulent cloud, is exactly the result expected of a highly-turbulent cloud of the type taught by Applicants.

The rejection of claims 11-13 and 15-16 under 35 U.S.C. §102(b) as being anticipated by Hossainy is submitted to be mute in view of Applicant's amendments to the claims. More particularly, Hossainy does not show or suggest the claimed micro-droplet coating process using isotropically impacting micro-droplets to generally conformally coat a three-dimensional substrate. Considering, for example, column 2, lines 6-8 and lines 15-20, Hossainy expressly states that their coating mechanism is based upon fluid flow through passages sufficient to prevent blocking. This is in contrast to applicant's claimed micro-droplet coating process.

The rejection of claims 1 and 8 under 35 U.S.C. §102(b) as being anticipated by Versteeg is submitted to be similarly mute in view of Applicant's amendments to the claims. More particularly, Versteeg expressly teaches the above-described chemical vapor deposition process operative to coat the exposed 2-dimensional surface of the mounted substrate. Versteeg does not show or suggest the isotropic, micro-droplet

coating process operative to generally conformally coat a three-dimensional substrate as taught and now claimed by Applicants.

The rejection of claims 1-4, 8 and 14 under 35 U.S.C. §103(a) as being unpatentable over Hossainy in view of Versteeg is likewise submitted to be mute in view of Applicant's amendments. More specifically, neither Versteeg or Hossainy teach or suggest Applicant's claimed micro-droplet coating system. Combining these references adds nothing to their individual teachings in respect of Applicant's claimed micro-droplet coating processes.

The rejection of claim 9 under 35 U.S.C. §103(a) as being unpatentable over Hossainy in view of Versteeg and further in view of Tedeschi is submitted to be mute as claim 9 is now dependent from amended, patentably distinct claim 8.

In light of the above amendments and remarks, Applicants respectfully submits that the active claims in the present application are in condition for allowance. Accordingly, Applicants request entry of this Amendment and a timely allowance of the active claims.

Respectfully submitted,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Attn: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 18 day of June, 2004.

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